Healthy Air




New England has made great strides improving its air quality, the most obvious indicator being the dramatic downturn in summertime smog pollution. Since the mid-1980s, the number of days when smog levels were unhealthy has been cut in half. Still, the 31 smog alert days we experienced last summer were a reminder of the challenges that remain in combating nitrogen oxides (NO_x), volatile organic compounds (VOCs) and other pollutants that contribute to smog and other public health threats. Our environment continues to be compromised as well by mercury, dioxin and other air toxics, acid rain precipitation and greenhouse gas emissions. In tackling these challenges, we're focusing attention on the energy and transportation sectors, the largest contributors to air pollution in New England.

Tackling Diesel Bus Fumes

Carmen Cordero of Hartford, Conn. is very attuned to air pollution because both of her children suffer from asthma. Diesel fumes from Hartford's school buses, transit buses and trucks have long been one of her biggest concerns. So last year, as a volunteer with the Hartford Environmental Justice Network, she visited four public schools to evaluate the problem firsthand. What she saw was alarming—at one school, she counted seven school buses lined in a row with their engines idling for 25 minutes.

"We wonder why these kids are getting sick," said Cordero, who lives in a city where nearly a third of the households have at least one person with asthma. Diesel exhaust causes lung damage, respiratory problems and even premature death. It is also known to aggravate asthma, especially for children.

New diesel-engine vehicles coming off the assembly lines in 2007 will be significantly cleaner than today's engines. However, because trucks and buses can operate for up to 30 years, EPA New England is reducing pollution from diesel vehicles being driven on our roads today. Among our biggest priorities is reducing emissions from school buses. In partnership with state agencies, we are working with school administrators and public health groups to highlight ways to reduce school bus emissions.

This includes guidelines for eliminating unnecessary idling and adding pollution controls—such as diesel particulate traps—to school buses. This technology, when used with a cleaner diesel fuel, reduces particulate emissions by as much as 90 percent. This spring we announced a project to install particulate traps on 150 school buses in Boston. We also are using grants to empower grassroots groups like the Hartford Environmental Justice Network. "We need to act now," said Cordero.

ENERGY RELIABILITY AND CONSERVATION

Safe and reliable energy has long been an issue of concern in New England and that's still the case today. Fortunately—and, in large part, through the efforts of EPA and the states—New Englanders can take comfort knowing that the region will have sufficient, cleaner-than-ever electricity supplies in the years ahead.

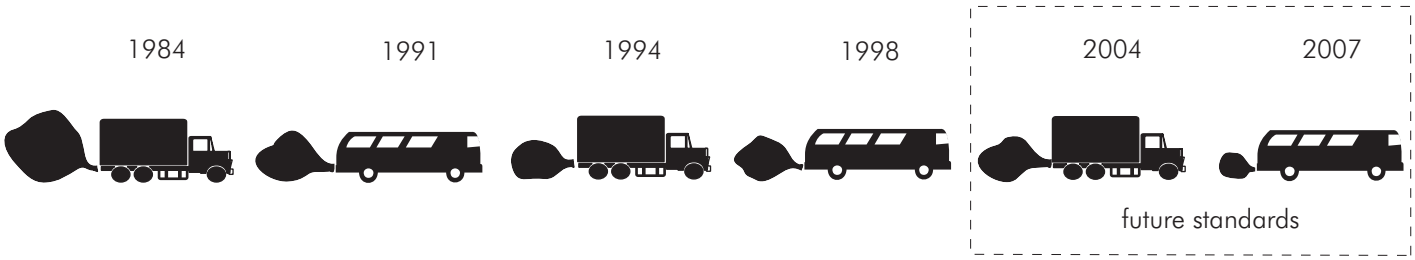
Since the late 1990s, the New England states have approved permits for 26 new, clean-burning power plants that will provide more than half of the region's electricity needs during peak summer months. The permits for these natural gas-fired plants are among the tightest in the country. The facilities emit virtually no sulfur dioxide or mercury and only a tiny fraction of nitrogen oxides compared to the region's older oil- and coal-fired power plants. As more of these power plants come on line, New Englanders will see corresponding drops in smog, particulate matter, acid rain and mercury deposition.

Another way to ensure reliable energy—improving air quality and saving money at the same time—is boosting our energy efficiency investments. EPA's ENERGY STAR® program, which offers recommendations on how to conserve energy, has already saved New England organizations and consumers more than $2 billion on their energy bills. And more savings are expected now that Energy Star has expanded its offerings to other sectors, such as healthcare facilities, hotels, food retailers, schools and universities. Over the next year, EPA New England will aggressively market the Energy Star tools to such sectors as K-12 schools, hospitals and public buildings.

To further enhance our efforts, EPA New England recently formed an Energy Team. Among the team's focuses: boosting the use of renewable and clean power, improving energy efficiency and streamlining permitting of energy-related facilities and infrastructure.

We wonder why these kids are getting sick. We need to act now.
— Carmen Cordero

TOUGHER EPA STANDARDS REDU



*EPA's emission standards for trucks and buses are based on the amount of pollution emitted per unit of energy (expressed in grams per brake horsepower hour).

TRANSPORTATION: CARS, TRUCKS, BUSES AND FUEL

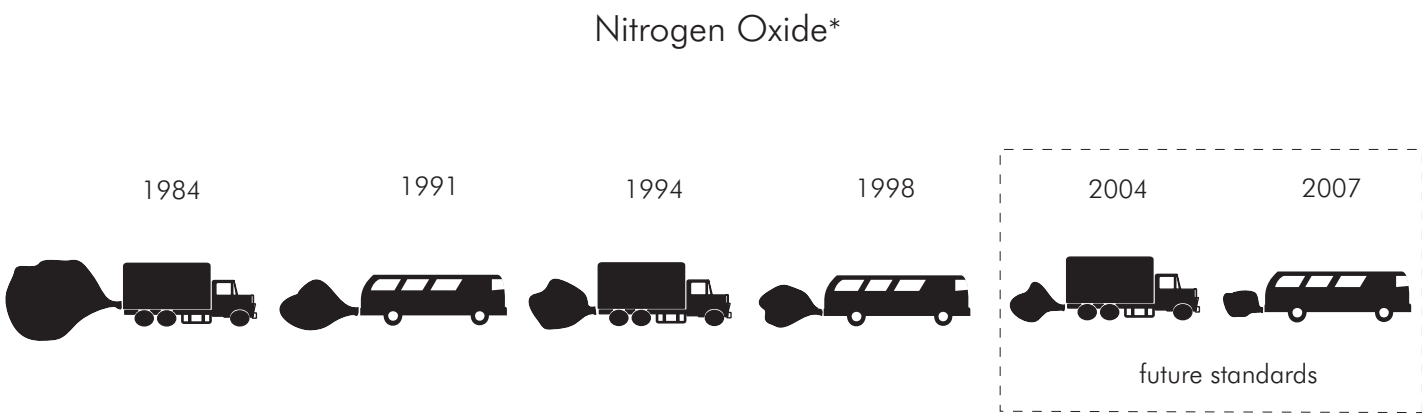
Clean air is directly related to cleaner vehicles and cleaner fuel. On both of these fronts, EPA has made dramatic progress. Today's new cars operate 90 percent cleaner than they did 30 years ago. Still, cars and trucks continue to be the region's largest source of air pollution, emitting about one-third of all volatile organic compounds and half of the nitrogen oxides and air toxics that compromise our air. The reason is simple: there are more cars and trucks on the road. In just 30 years, the number of vehicle miles driven in New England has nearly doubled.

EPA has adopted various programs to make our cars and trucks even cleaner. Aggressive new standards starting in 2004 will for the first time require identical emission limits for passenger cars and light-duty trucks, including pickup trucks, minivans and sports utility vehicles. Smog-causing emissions from new cars will be cut by 77 percent while emissions from dirtier light-duty trucks will be slashed by as much as 95 percent. The agency also adopted new rules for heavy-duty trucks and buses, the first phase of which will begin in 2004.

Fuels also are getting cleaner. EPA's reformulated gasoline program, which covers much of New England, is credited for achieving substantial reductions in VOCs, NOx and air toxics. Beginning in 2004, low sulfur gasoline will be available nationwide. EPA is also requiring diesel fuel to have ultra low-sulfur content beginning in 2006.

EPA New England is especially concerned about diesel pollution, particularly in congested urban areas where diesel fumes cause elevated levels of soot (fine particulate matter) which, in turn, can exacerbate asthma and other respiratory problems. EPA New England is moving aggressively to slash diesel emissions from trucks and buses already in use. We are encouraging each of the states to develop diesel retrofit programs so more diesel vehicles—construction equipment, school and transit buses—are equipped with pollution

CING BUS AND TRUCK POLLUTION



*Buses and trucks are represented collectively by symbols

source: EPA

control devices. We're also using enforcement settlements to curb diesel emissions, one example being an agreement by Waste Management of Massachusetts to spend $1.4 million to retrofit about 150 diesel school buses in Boston.

EPA is also working to reduce the number of vehicle trips by increasing the use of less polluting alternatives, including commuter rail, transit and ride-sharing. A cornerstone of this effort is expanding participation in the EPA/Department of Transportation Commuter Choice Leadership Initiative, a program that recognizes companies and organizations that provide financial incentives to employees who commute to work in ways that cut air pollution, reduce traffic congestion and save money. As of June 2002, 17 companies and organizations in the region had signed up, including Harvard University.

CLIMATE PROTECTION THROUGH VOLUNTARY ACTION

The New England Governors, along with the Eastern Canadian Premiers, recently made a commitment to reduce the emission of greenhouse gases to 1990 levels by the year 2010. EPA New England is strongly committed to achieving this goal and has launched a number of activities—in addition to our extensive energy and transportation work—to help accomplish it. We've provided more than $200,000 to each New England state to develop greenhouse gas inventories and an additional $387,000 for the states to develop mitigation plans. We're providing additional support to the Cities for Climate Protection Program, an international effort to help municipalities reduce their energy footprint. More than two-dozen New England communities—the highest of any of EPA's 10 regions—are participating.

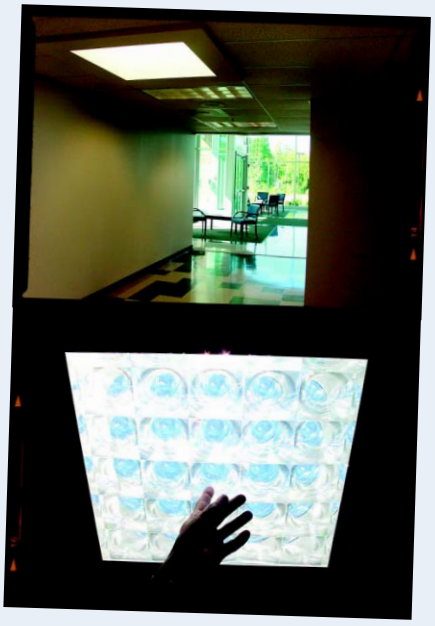
AIR TOXICS

Mercury is still far too pervasive in the New England environment. For years, our lands and lakes have been on the receiving end of mercury emissions from incinerators and power plants, many of them outside of the region. Once mercury gets into the environment, it bioaccumulates in fish which is why all six New England states have fish consumption advisories in place.

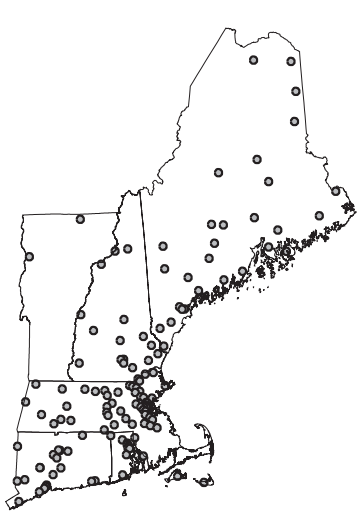
The good news is that EPA New England, our partner states and the Eastern Canadian Provinces have been national leaders in eliminating mercury. While New England's municipal incinerators have slashed their emissions by 90 percent, most of the region's medical waste incinerators have closed altogether due to tougher emission requirements. Meanwhile, dozens of area hospitals have stepped forward under our voluntary Partners For Change program to eliminate mercury containing products. And states such as Maine, New Hampshire and Rhode Island are banning mercury fever thermometers altogether. These efforts are clearly working and we'll see even more improvements when we start reducing mercury emissions from coal burning power plants all across the country.

Dioxin is another toxic pollutant that poses enormous health risks. While we've made some progress in reducing emissions from incinerators and in curbing discharges from paper mills, there's more we will be doing in the coming year, with much of our attention focusing on how we can apply our regional mercury reduction model to dioxin.

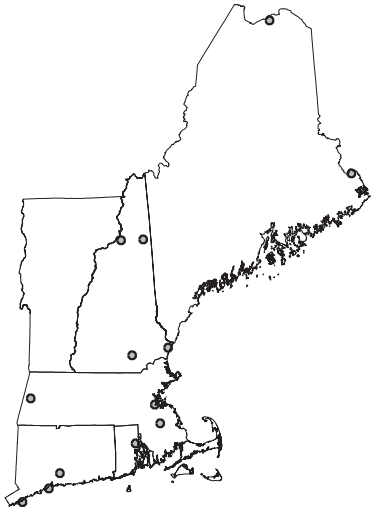
The new regional laboratory is a testament to our commitment to reduce the environmental impact of our facilities and operations.



Reduction In Medical Waste Incinerators Operating In New England



210 in 1995



13 in 2001

(2 of the 13 facilities are closed but they are still capable of operating)

source: EPA

EPA New England 'Walks The Talk' With New Lab

EPA New England's new regional laboratory in Chelmsford, Mass. is a testament to our commitment to reduce the environmental impact of our facilities and operations. Throughout the planning and building phases, special features were incorporated to make this happen. For starters, natural resources available on the property were used in construction. More than 17,000 tons of rock outcroppings were crushed on site and used as based material for paving, footings and other structures. The landscape design—Xeriscape—has native pest-resistant plants that require little watering.

The 66,000-square-foot laboratory, which opened last fall, is at least 35 percent more energy efficient than comparably-sized facilities. Among the conservation features: energy-efficient lights, high-efficiency motors, insulated windows, highly rated insulation and occupancy sensors with system setbacks for night and low occupancy. The building also utilizes photovoltaic (solar energy producing cells) awnings that shade office windows, while also supplying about 2,000 watts of electricity each day to the regional power grid. And, reflecting our commitment to 100 percent renewable power, the building is being powered through a contract with a wind-generation company, Green Mountain Power of Vermont.

The Chelmsford lab is just one example of how EPA New England is reducing its environmental footprint. Through our Green Team, our regional office in Boston has achieved a near 20 percent reduction in energy use since 1999 and we're shooting for a 30 percent reduction by 2003. EPA New England also was the first EPA office in the country to lease low-fuel, hybrid vehicles which run on a combination of batteries and gasoline.